

## Interviews with Geoffrey Waldon

### Interview with Dr. Geoffrey Waldon, 15 August 1979

Philippa Elmhirst, (slightly revised 1984)

G.W... The way I came to this whole business?

Looking back I can see that I didn't even need to have seen a child in my life to have arrived at the same conclusion! I think I sat down and said, 'Well, here's an organism, it doesn't have to be a human one; what does this organism need to do to survive and be effective?'

The only constraint was that this organism is an individual as opposed to say, organisms like bees or ants which can adapt as a complete colony. Here we are concerned with individual adaptation. The organism is going somehow to have to cope as an adult. This means being able to cope rapidly and efficiently with expected situations, and reasonably efficiently, though with more time, *with unexpected situations*.

The most important feature to me of the human being is not that it *happens* to use language but that it is in fact the most unspecialised creature on earth, so far as we can tell. This means that it can cope with a much wider range of situations than any other organism.

P.E. What do you mean by 'cope with'?

G.W. .... I mean behave effectively at any particular stage, that is to say survive, in the first instance; collaborate with other organisms in survival; survival involves finding or anticipating the finding of food, and coping with temperature changes, finding clothing, shelter etc. It means collaborating in a certain way which allows some division of labour; in the first instance this may be a division of labour between the male and the female. We are concerned with the individual and the species' survival.

Under most sets of conditions the majority of animals require to live in a particular range of temperatures or situations where certain foods are available. The *unspecialised* one is able to modify the temperature in various kinds of ways by cooling himself or planning how he can cool himself, or by warming himself, or planning how he can protect himself from excessive temperature losses.

P.E. Anticipation is really a hallmark of human intelligence?

G.W. It is more important in some ways than the next stage that people talk about which is the capacity to pass on cultural heritages, so to speak, through language and so on. This is simply an extension of this kind of idea. My first feeling is that one can speak almost philosophically about it.

Because one is so highly unspecialised - it is necessary to reach a stage where the highly unspecialised is a state in which enormous adaptation is possible. You can't be born with this kind of adaptational ability. You've

got to have a long period of time to develop it.

The tendency on the whole is for certain creatures to be born with their particular capacities already built-in; then we have the animals which actually develop over a certain period of time and rapidly come to 'gel' with a certain kind of ability. But here (i.e. humans) we want a capacity to be able to deal with almost anything under almost any set of conditions etc. This requires a prolonged period of preliminary learning. One of them is the learning of *how to deal with the situations which are expected, which are anticipated by everybody*; but even more important is learning *how to deal with almost any situation which could conceivably arise*, including the unexpected. I think it's these two areas which are the important thing as far as I am concerned.

It's interesting that it's these two kinds of learning which are particularly related to the problems of backwardness. There is a tendency for the normal child initially to simply increase this capacity for learning how to learn, but throughout childhood there are increasing environmental pressures for him to learn specific kinds of behaviours towards meeting with specific kinds of environmental situations. Although the *total amount* of energy and time and effectiveness is steadily increasing at a very rapid pace, yet *the proportion of this* which can be devoted to developing a capacity for learning how to learn, as opposed to learning specific items, is steadily diminishing.

P.E. And the time they spend learning specific items is thereby increasing.

G.W. Yes, because the demands are in this way. The small child is allowed to do what he likes, so to speak, but quite quickly people expect him to be potty trained, people expect him to feed himself, dress himself, and quite rightly, but then gradually we get to the stage when we expect him to behave himself in certain situations, to do these little jobs and so on, to fit the cultural 'norm' and then we reach the adolescent period when he's supposed to be learning how to take on responsibility ... in our particular culture we put this tremendous pressure on young people during their school years, to be ready to earn a living. So more and more of their time is taken up with the specific items which they have to learn. Less and less time is available for them to actually increase their capacity for learning how to learn. The rapidity with which the organism reaches the stage where there is almost no time left for learning-how-to-learn determines the final intelligence, *general* fundamental understanding or whatever you're going to call it.

P.E. You feel there is some kind of conflict between the two ways of learning and that one does not necessarily help the other?

G.W. I feel that there can be and often is a conflict between the two, in fact in some ways they are mutually interfering, and that the more rapidly particularised learning takes precedence over generalised learning the more rapidly the organism comes to the end of his fundamental development so to speak.

The interesting thing about this is that the child *becomes an adult* as his capacity to

spend most of his time in generalised learning turns over to his learning specific items. This is exactly analogous to the process by which young children in difficulties become progressively retarded. I would see that the adult is virtually a retarded form of the child, as seen from this particular point of view. This means that there are at least two ways in which this capacity for learning-how-to-learn could be extended. One of them is by deliberately encouraging general learning at the expense of specialised learning development. Another way is to increase the total capacity of the child to learn. Thus a child who early comes to put enormous effort into activity, and therefore actually processes a great deal more of the environment per unit time than another child will be more highly motivated to learn. If we also deliberately delay the tendency to specialisation then we shall further increase the overall capacity of this individual, in my opinion.

In relation to normal children, the adults, being already highly specialised people, are particularly concerned with what they would call efficient, rapid learning of tasks and with 'end point' or the completion of tasks, and attainment or achievement, etc., and naturally tend heavily to reinforce and reward the child who produces particular tendencies.

P.E. Are adults really all so specialised?

G.W. That's how I see it, and I think it is because the whole of education, which reflects popular prejudice, seems to be designed towards more particularised learning. We grown-up humans begin by being very unspecialised creatures but we

soon learn to worship specialisation. If we give the same task to two children, the one who does it quickly and efficiently by the shortest possible route is likely to be the cleverer child, I agree. But he is also the one that we tend to admire. The result of this is that if we happen to be working with the child we feel more pleased with ourselves when the child works rapidly and efficiently, which simply evidences the learning he *has done previously*. If we take another child who struggles and struggles with the problem and perhaps doesn't succeed in it, we may in fact have done a far better teaching job but we're not so pleased with ourselves. We are pleased with ourselves for no reason at all because a child happens to have demonstrated what he has previously learned, i.e., that he is able to learn something very quickly. A teacher is generally less pleased with the child who has struggled but in whom she may well have produced very definite learning because she has in fact increased the child's effort, and so on. We are distracted by the wrong priorities.

P.E. All right then, what is handicap? If adults are handicapped, what is handicap?

G.W. What I really meant was the state of retardation, i.e., that tendency to put as little effort into an activity as possible, to reach the end point, to see an end point and to reach it by the shortest possible route, this is the kind of thing which I see basically as retardation or retarded behaviour in backward children and this is exactly analogous to what the 'time and motion study man' worships as well.

By 'handicap' I mean something rather different. I mean a state in which the child considers himself to be at a disadvantage as a result of excessive environmental or personal demands. As long as he sees these as being excessive, it produces a state of emotional discomfort in him which he can only alleviate by producing certain kinds of defensive behaviours.

P.E. So a child is not handicapped if he does not realise his handicap (impediment)?

G.W. Exactly so. A blind child living with blind people or on his own is in no way handicapped because he has no one to compare with, so to speak. Take two children, one of whom is blind and one of whom has perfectly good vision, otherwise, let us say, they are more or less equal. We give them some cards with pictures on them and they have to sort these out (let's say the blind child isn't entirely blind); well, if it is important to the child, perhaps as a result of environmental demand, that he should perform in a reasonable way, then the child with the visual difficulty is distinctly handicapped. If the children are been rewarded for getting things right, then ... Now imagine we turn to children sorting and matching things entirely haptically (i.e., by feel e.g., in the dark), at this point the handicap of the blind child has disappeared altogether. So handicap is something that varies from moment to moment. Because it's variable and subject to conditions we should aim to produce teaching situations in which handicap states are minimal.

If you confuse the word handicap with the state of having some sort of impediment to development or progress (as a horse is

handicapped by putting metal weights in the saddle) then we are using the word handicap in two different ways, one of which applies to the impediment itself and the other to the effect of the impediment on development. I carefully distinguish between impediment and handicap, and I do away with one of the common uses of the word handicap in order to expose the other one.

A handicapped child in this general sense would be a child who spends a fair amount of his time in a handicapped state.

P.E. Feeling inadequate?

G.W. Yes, feeling inadequate. If we could arrange that the demands on a child, in spite of his impediment, never produce the feeling of emotional discomfort so as to make him produce defensive behaviours then we needn't bother about him. He's already doing very well. He'll still be a retarded child, which is a different thing.

The useful thing about this sort of concept of handicap is its variableness and the fact that one can actually create environments in which handicap is minimal. So handicap is something you can manipulate educationally, in my opinion...and since the behaviours produced by a child in a state of handicap are designed to prevent the state of handicap....

P.E. I think you'd better give some examples.

G.W. Imagine there's a tendency for an adult to knock a particular child on the head with a stick frequently. A handicap behaviour then by the child would be the tendency to steer clear of the adult as far as possible, to ward off the blows, say, with one arm and to be continually on the watch for blows. We now have a child who cannot go into certain situations for fear of meeting with certain people, and therefore, he has *voluntarily* restricted the range of his activities. He cannot engage too much in two-handed activities because one of his hands is perpetually ready to ward off blows, and he can't attend fully to what he's doing because he is always looking elsewhere. Imagine that we can teach this child that whenever he enters the white house and it's 10 o'clock, or it's night, or something, then nothing *ever* happens to him. No one ever knocks him on the head. We may be able to create a situation where the child relaxes his anxiety. He can give the whole of his attention to something. He can use both his hands. He can move freely within this particular environment, which is now *handicap-free*, for *this* child.

In practice, of course, it's much more likely that the demands on the child are those of a kindly, concerned adult who is very keen to help him. This adult will probably be saying to him, 'Let me see, what have you been building over here?' or 'What is that made of?' so the child who perhaps doesn't understand that level of language is forced to say something like, 'I'm going to Blackpool next week'. Even though the adult is a lovely friendly person with his arm round the child, the child is having to ward off this 'interest' by producing a number of verbal patterns because of his difficulty in understanding the speech. This particular mechanism, by the way, is an absolutely

normal one, and is used by normal small children and under ideal conditions actually generates new language structures. Under less-than-ideal conditions it produces stereotyped response patterns and curbs the development of language. The kinds of handicap behaviour that one finds in practice are of two forms, as I see it. You can be in a state of emotional discomfort over something.....

P.E. By that do you mean feeling inadequate?

G.W. Well, the feeling of what we often call anxiety, it might be fear or just an odd feeling in the tummy. It's emotional insecurity perhaps. I often use the word 'unpleasure'. There are several ways of coping with this. The obvious course is to get away from the source of the unpleasure. If there is someone or a situation that one is nervous of, then one escapes from it, physically or by engaging in some other kind of activity which distracts one from this situation. One can also take this a stage further and avoid the situation in the future.....obsessional behaviours come into this category.

But what happens when you actually have a problem and you cannot physically escape from it? When it's part of you, in some way? You can then do another thing. You can generate pleasure so as to help compensate for or assuage the unpleasure. This is the more common way of coping. The child generates activity, which is basically pleasurable, in an excess, so helping him to submerge the unpleasurable feelings beneath or within the pleasurable ones. Small children engage in the behaviours

which are earliest to them. One of the classical ones is squinting. All children need to squint or exercise the convergent states of their eyes in the early stages. It's a pleasurable activity and it is vitally important to the development of proper oculo-motor activity but by the time the child is about four months or so he's usually so skilled we don't notice the squinting any more. The medical profession has a very odd way of looking at this; they think children tend to squint until they are 4 months old and then they're all right. I would say that if they didn't squint then they'd never be able to see properly. Later on you notice that perfectly normal children frequently love to 'cross' their eyes for some sort of pleasure.

The next obvious stage is one at which children from about 6 months move their bodies forwards and backwards. By the time they're about 10 months old normal children love to rock. We don't often see this because they're usually too busy doing other things, but if you put a normal child in a situation where he's unable to do anything else, such as when he has to sit 'properly' with a lot of adults on mother's knee in a doctor's waiting room, the child rocks. Not only does he rock but he also thumps his head against mother's chest. Headbanging and rocking are very commonly seen in backward children. You'll notice that, a few months earlier if a child is upset what do we do? We thump him on the back and we jiggle him about. If we scale the child and remedy up (i.e., magnify the size of the child and proportionately the amplitude of the thumpings) it becomes BANG, BANG. We always tend to choose these two main things - the sudden jarring of the child and the rhythmic rocking of him. In a sense it's not surprising that subsequently he reverts to them. Rocking, of course, is also essential

to normal reaching. At a later date we see the child moving objects rhythmically in front of his eyes which in some respects would be even earlier (related to the 3 month or 'hand regard' period), and sometimes also 'eye-gouging'. Not the kind which hurts the eye, but if one does it oneself one gets coloured lights and I presume it's something like this for the child. Another activity would be one in which something is caused to move and to continue to move and this is the origin, I think, of the spinning of objects behaviour of autistic children. The hand-flapping also, though this is a cruder form. The spinning obviously takes a little time to develop, but represents a very concentrated practised skill of about a twelve months level, although it is commonly misinterpreted as of a higher order.

P.E. What about twisting arms etc?

G.W. I think with certain groups of children there are a whole series of dancing, posturings, standing up on the toes, prancings, squattings and so on, all of which I see as being of the same nature, but in this case I think the origins are distorted. I would relate this to my own views on autistic children which I won't go in to here, but the point is that in some respects it's at first almost like a benumbed child exaggerating some movements because these can bring greater feeling to the child. The particularly stereotyped movements in children with movement difficulties are more likely to have been governed by the movement difficulties themselves.

P.E. They'll be related to the movement he *can* do.

G.W. Exactly so. These are often the exaggeration of normal movements like gross over-pronation of the hand and forearm. It's normal in small babies and it's exaggerated in children with athetoid patterns and in general it's also to be seen in children who are spastic. One can sometimes use this movement, whose first *effect* is to push things aside, in order to *gain* objects. These are some of the ways in which to escape from or avoid the cause of the unpleasure. This is a rather more sophisticated way of doing it. With certain groups of children a high proportion of this second category is made up of social manoeuvres. They are often activity provoking, as I call them, or attention-seeking.

P.E. Activity not of themselves though.

G.W. No, activity of the other people though this activity isn't necessarily directed toward the child. An activity results, that's all; at a higher level, beyond attention-seeking you have attention-diverting. These are more sophisticated still. Then you have attention-avoiding behaviours one of which I call 'competitive substitution'

P.E. What does that mean?

G.W. I mean, a simple example would be in a primary school, a child who is not very good at mathematics but who can read will frequently arrange to be reading at times when otherwise he might have been asked to do arithmetic. He has substituted the

thing he has found is highly desirable from the point of view of the teacher for something else. He is doing something which other people approve of but really to avoid being asked to do something which he has difficulty with. The phrase 'competitive substitution' comes from pharmacology; it is a principle on which certain drugs work, for example. A classification of handicap behaviours is quite possible and very useful from a teacher's point of view because I believe the first thing is noticing these behaviours and recognising them as evidence of handicap.

One of the big problems that I think we have in education is that we have a tendency to keep saying that all children are individuals and you've got to arrange your business to fit the individual child. That all sounds terribly plausible, and the first part is true, but to me it's absurd to imagine that we should ever be able to fit a programme accurately to an individual child, and a good thing too. Really what we should be doing is looking for what all the children have in common, the common basis they have for their learning and development. This would allow us to produce a very much more general way of teaching so leaving the particulars of individuality very properly to the individual.

If you can recognise handicap behaviours, which are non-specific things, they will warn you that the child is in difficulties. If what I am saying is true, the child who is handicapped in this sense is unhappy. The important thing is to recognise this, and not simply say, 'He is a naughty child', or a 'lazy child' or 'obsessed with this', or 'he's excessively tidy' etc. These phrases may be very useful, but the moment you've said

them you must ask yourself why the child is behaving so, and if necessary call in help.

The second point is, when it comes to teaching, you can use the handicap behaviours as a measure of how effective you are being. This is different from the ordinary school situation where you try to measure your effectiveness on the basis of attainments. This is why so often, when someone comes along and says, 'My child is 19 years old, can we do something?' and the child says to me, 'Is this going to help me get a new job? and so on I have to say, 'Well, I hope these things might result, but they're not what we're concerned with'. The first thing I would like to see at a certain stage is a tendency for the child to engage spontaneously in activity, and by this I mean to engage in activities for no other reason than that he wants to, and in the first instance that he should enjoy the 'lesson' that we do together. Once we get to the stage where the child enjoys doing the 'lesson' we've made tremendous progress even if we can't actually measure some gross improvement (as a matter of fact you usually can do so at this point). So if the child shows handicap behaviours, then a diminution of these is a sign that one is being effective educationally. I think this is a much better initial criterion of effectiveness than any kind of psychometric measurement. Of course, I would also measure fundamental development as well, but that's a different story.

Handicap has this tremendous interest. On the one hand what we have called handicap behaviours are one of the two major groups of secondary impediments. Handicap is an emotional state. Handicap behaviours are what the child does to cope with this untoward emotional state, and since these

behaviours tend to make him avoid handicap situations, and since handicap situations are obviously the ones he can't cope with, and since the ones he can't cope with are the ones he has least experience of, then handicap behaviours actually *prevent* him from learning about the very things he should be learning.

P.E. That he *needs* to learn?

G.W. That he needs to learn, exactly. So handicap behaviours then represent a secondary impediment to development. The other secondary impediment is the group of behaviours I call *retardation behaviours*. These are the ones which tend to slow down the rate of general development, which make the child move with less facility along a pathway; then there is the tendency to 'branch' less freely and to connect less with the branching of other activities. Normally a child not only moves forward and with greater facility along some developmental pathway, but he also develops laterally; he produces 'branches' and these branches tend to link up with those of other pathways, and so on. So a tendency not to branch would produce a tendency not to connect up and so proliferation is much less. Sometimes branching is delayed and takes place, if at all, at inappropriate times so you get *interference*.

P.E. Can you give an example?

G.W. An example of this would be a Down's syndrome child who is developing reasonably well along the learning pathway but where the evolution of grasping is for

some reason delayed<sup>1</sup>, so that at the time when a child would be reaching to put things into something with great facility and skill and would normally have a very advanced kind of grasp, we often find a child who has reached the same stage of learning but who still has an ulnar grasp in which he's holding things with the heel of his hand. This means that the child has enormous difficulty orientating objects and using them in the simple skilful way one might normally expect at this stage of reaching. I consider that the grasp is very much an inherited, simple, near-automatic process which has a sort of evolution not very closely tied to learning, whereas reaching and picking up I think are almost entirely *learned* skills. Under normal conditions the maturational process involved in the grasp is beautifully adapted to his stage of learning, so a child who may be relatively advanced in his real learning but has a poorly mature grasp is at a considerable disadvantage.

I have seen many a child who I think could not get beyond an 18 or 20 month level because his limited grasp had interfered with it. Retardation behaviours are learned too, like handicap behaviours, but they are commonly learned as effort-saving distortions of normal patterns.

The third area of retardation is the area related to specificity when the child produces activities in a particular situation. Normally he produces a great variety in each situation from which generality he crystallises the core activity and comes to be able to use it in an adaptive way. If this fails to occur, you get a child endlessly

repeating the same narrow activity for its own sake.

The interesting thing is that retardation behaviours and handicap behaviours are often the *same* behaviours. This is probably an example of the parsimony of nature, because obviously if you can get the same behaviour to fulfil two different functions.....If a retardation behaviour can be cashed in on as a handicap behaviour then you save a lot of time, so to speak. If you tend to reach in a stereotyped kind of way because the pleasure of reaching along that stereotyped path is very much greater than any variant on it, you also avoid moving into the areas which worry you. So simultaneously there is a tendency for the child to be attracted to simple well-worn pathways which are safe and pleasurable and also to keep from moving into areas within which he will be insecure. The same behaviour can thus often be both a handicap behaviour and a retardation behaviour.

P.E. That's obviously an optimum behaviour to hang onto.

G.W. It may well be from the child's point of view. The interesting thing about it is that although the behaviour is the same, its functions not only are different but their senses are often opposite; nevertheless they tend to work together. That is to say a child engages in a retardation behaviour because he is *attracted* to that behaviour as giving greatest pleasure but he *avoids* anything else because he is *repelled* by variants on that behaviour. We have a tendency to be repelled by the 'unknown' and to be attracted by the known simultaneously.

Instead of believing that a child is backward 'because his brain is damaged' and that all the backwardness immediately derives from that, we can see that a child with a small amount of damage could become extremely backward and alternatively a child with a great deal of damage could be much less backward depending on the amount of secondary impediment.

P.E. And that would depend on the environment.

G.W. And very much on the *social* environment in particular. It's much more optimistic than other ways of looking at the problem, because it means that often a very retarded child could make very considerable progress if what I am saying is true. Generally speaking, the more retarded the child, the less we expect of him.

The other optimistic thing about it is that because a particular behaviour has these two sides to it, what we need to do is to increase the range of his experience so that there is more that is familiar and less that is unfamiliar.

This means that every step forward the child takes along these lines is really a double step because it's always a step forward from familiarity which also takes away some of the unfamiliarity at the same time. I think this is the reason why one can get so much better results very often, because in one case people are saying 'Poor little chap, he's got brain damage and he can't do this or that', which is all very plausible at first hearing but to me that's irrational because why is it possible for instance, for a child who is learning to understand language to

hear the language in a confused way (as is claimed for some children).

But you can say that certain fundamental difficulties have arisen so far in this child's development. (Either he looks at this picture and maybe is not able to see through and sort out the components of this picture, or he might have difficulty encoding the component bits in the sense that he hasn't learned to associate the stereotype of thing depicted with its true reference).

We can have two different secondary impediments resulting in what is, at first sight, a similar problem I mean for example an autistic child may have no difficulty sorting out the components of a complex design but he may not be able to associate the triangularity of a certain part with, say, the eaves of a house, whereas another child may be very familiar with transportation and plant life and so on but may not be able to distinguish the picture of a tree from a great deal of distracting 'noise' (i.e., other details) or he may not be able to supply information not actually in the picture but which could be extrapolated from it, as when part of the picture is visible, for instance, even though when he sees the rest of it he may have no trouble interpreting this in real terms.

Neither of these kinds of retardation needs to be explained on the basis of special damage to a particular part of the brain. They can both be explained very readily in terms of interference with the general developmental process. If this is true then one can change it, in both cases.

P.E. One of the things I wanted to ask you was if we agree that it's a good thing to be normal, what's the most helpful thing the environment, which includes other people, can do? And the most unhelpful thing?

G.W. If what I said at the beginning is true, that one really wants the child whether it's a normal child or a gifted child or a backward child, to be highly motivated to be active, to be capable of more and more rapidly processing the environment, scanning and taking in the sampling so as to gain experience and to convert this experience into understanding (which I see as effectiveness in working on the environment), then we want to increase the total *amount* that a child does and gently to delay specialisation so that the amount of fundamental experience he gains in the early stages is maximised and the tendency to fall into simple stereotyped behaviours is minimised. We want an environment which is going to stimulate, to encourage the child to be as active and as spontaneously active as possible. We want to interfere as little as possible with this active process and yet to provide sufficient constraint or guidelines to ensure that the child exercises every aspect of understanding.

Our tendency to overcompensate for children's behaviours is pathological, for we thus make them more and more dependent upon the environment, particularly upon the social environment. We encourage them to be specialists at a very early age; we encourage them in activities like reading and so on, which - however, wonderful it is - is really concerned with second-hand information.

We encourage the child to believe that attainment and success are vitally important, so we rapidly addict him to being reliant on environmental approval, on 'success'. Subsequently the 'sensitised' child can be 'motivated' or rather incentivated by dangling a 'carrot' in front of him, so to speak. Clearly, all carrot-like incentivation

has its limits because sooner or later we reach the stage where the child can't quite jump high enough for the carrot. At this point he stops jumping. It is terribly important that he should get the carrot (he is hungry for it) so then he also becomes anxious and we find we have produced a state of handicap.

*Real* motivation is related to the pleasure a child takes in activity, so that the more active a child is the more pleasure he gets, and the more pleasure he gets from an activity the more highly motivated he is. That's why I think it's so important to increase to its maximum the child's total activity. So on the one hand we need to increase the total activity and at the same time we must diminish anything that interferes with this spontaneous activity, such as our own doing too much for him.

Under ordinary conditions, the child can be relied on to supply the necessary balance. Fortunately, in the early stages a child ordinarily takes some time before he learns to become dependent on us, but of course children with movement difficulties tend to be forced into such a dependence early on. Fortunately also with very young children, we, as adults find it very difficult to interfere in baby behaviours because we just don't notice them sufficiently.

It is in the behaviours and development of so-called gifted children that we are prone to interfere very early and with disastrous results. They are therefore just as likely to be handicapped as backward children. Whereas the backward child, at a certain stage, actually is delayed whether we like it or not, instead of demanding *more activity of him* we compensate by doing more *for him*, which is the most ridiculous thing in the world. It's very human but irrational and not educationally very useful. At the other

extreme we have the children who show themselves to be rather exceptional very early and in this case they themselves force us to take an interest in them. But as we're so addicted ourselves to such skills as reading and - well, it's always reading...reading...and reading!! - that's all we can think of to do with a 'gifted child', to get him reading earlier or reading something more sophisticated. Though this might possibly be a good thing later on, what actually happens is that the poor little chap who began by being a gifted child becomes more and more 'retarded', relatively speaking, in his case because now more and more of the time in which he could be building things or even making sand-castles or playing with water is spent reciting or using syntaxes or talking about things which may well be beyond his basic experience. He is developing an interest in language or written language which, as we have said is concerned with second-hand information, and which may actually get in the way of real understanding. In fact so often the complaint of parents of gifted children is 'Why isn't the teacher spoon-feeding our gifted child just as we spoon-fed him since he was small? They don't put it that way round of course. Surely a truly gifted child should require less help in learning than the average child.

P.E. Would it be a good idea, in theory, to encourage multiplicity of specialisation?

G.W. If one could actually do this, this would be fine. The point is that the number of these would be so great as to require an enormous amount of time as well as an enormous amount of engineering which, unfortunately, is likely to be stereotyped engineering. What one really wants to do is to encourage the general understanding so

that they give rise spontaneously to the specialisation whenever these are required. Normally every fundamental mental skill gives rise to new mental skills, and all the way along the line from a fairly early stage the tendency is to produce specialisations in response to environmental demands. When these are normal environmental demands, natural ones as opposed to those which have been specially thought up by adults, then since the child will only recognise the demand when his state of understanding has reached a sufficiently high level, he will only respond to these by producing special or particular behaviours when he is exactly ready to produce them. A child will only recognise a problem when he has the equipment to go about solving it. This means that usually, specialisations will grow out of the generalities and they'll always happen at the ideal moment when there is already a state of preparedness in the child and an accumulation of the right kind of raw materials.

In actual practice there is a way round this. I suggest that one should encourage general development rather than particularised development but having frequently said such things as 'Let's not teach this particular thing', or 'Let's teach the general and let it give rise to this particular thing as well as to a lot of other particular things which you may not have thought about', in practice of course, one can only encourage general understanding when we've got some activity to work on. Generalities arise from the varied exercise of various particulars in practice so why not choose the particular activities we're interested in but encourage them in a general way? This is what I would do, in practice.

P.E. Can we have some examples?

G.W. The example I almost always use - there are lots of possible examples - is in response to a complaint that 'This child is not feeding himself with a spoon': it is first necessary to recognise in this that the priorities are wrong. It is of little importance whether your child feeds himself with a spoon or not. In our minds - say his parents' or teachers' - it may be of very high priority because somehow or other in our particular culture, children tend to feed themselves with spoons from a fairly early age. If one looks at the matter more carefully one sees that it ought to have extremely low priority because it's really unimportant whether a child feeds himself with a spoon or not. There are innumerable cultures where children do not, and are not encouraged to, feed themselves with spoons because this is not thought to be a good thing. The child is encouraged to feed himself with his fingers and I think probably more children throughout the world eat with their fingers than with spoons. Quite clearly this is not some fundamentally important thing. It's probably of high priority as far as the parents are concerned because it sort of stands out a mile, and they don't like to see the child messing about with his fingers, I suppose.

Having said that, and having usually met with a lot of opposition, one then goes on to say something which sounds as if one is contradicting oneself at first hearing, and that is, 'It's terribly important that he should be able to feed himself with a spoon'. The difference here is that in one case I am saying that it's not very important that he *does* feed himself with a spoon, but in the other that it is very important that he *should be able* to feed himself with a spoon. This is the big difference. The child ought to be in a state of tool-using ability such that

he can, *among other things*, feed himself with a spoon.

Whereas someone who is obsessed with getting the child to feed himself with a spoon may take a behaviour-modification attitude to this and say 'We're going to take this and simplify it as much as possible, we'll break it down into stages, we'll heavily reinforce each stage, and by the end of the week, oh frabjous day because he's feeding himself with a spoon. We've got a built-in, vegetative reinforcement system – food - so let's have a semi-starving child before we start, and so on. The point about this is that most people seem, I think, to look at it this way. I would be entirely against this approach altogether. What we really want is to increase the child's use of tools to such an extent that, at some time or other, he will *spontaneously* start to transfer food into his mouth.

P.E. .... and you will find that at the same time he is also doing this, that and the other, with other tools?

G.W. Exactly. He will also transfer food onto the floor, into your eye, he will feed his teddy bear, he'll turn the spoon over and spread the food all over his tray, he will hammer with the spoon, he will scrape with it, he'll think of everything else.

P.E. And not with just a spoon; it's anything he gets his hands on.

G.W. But of course there's no reason at all why you shouldn't happen to use a spoon, among other things, when it comes to feeding time. The main thing is, if you actually have stuff in the spoon, and you're taking the child's hand and doing things, you don't simply transfer food to his mouth but you transfer anything from anything to anywhere and you do almost anything with it. You scoop things, you can rake things, you can push things, and in addition to all these things you would introduce - if the child were bigger - a hand brush, for instance. And then, maybe, a dustpan and brush for pushing material in a two-handed kind of way like a spoon and pusher. Related to this, which people often forget, if you take a spoon and enlarge it you get a ladle. If you enlarge the ladle and bend the handle round, you have a cup, or a jug or a saucepan. If you flatten it out, you get a shovel. Speaking topologically it is all these things - a pusher, a rake, a shovel, a spade, a scoop, a cutter, a borer, in a word a *tool*. One particular use, which I did mention in passing, is as a scraper where you actually scrape in order to leave a mark, and a pencil is a good example of this. There are so many behaviours here that any attempt to have the child simply transfer food to his mouth, I think, would be criminal, frankly because in so doing you're really encouraging the child *not* to produce the variants or any other related behaviours than the one you have in mind. Of course people say 'Oh, (we rather hope that) he will generalise from this later on' and that's the usual excuse. I think that there is no physiological ground for 'generalisation'<sup>2</sup>. I think that by making that deeper and deeper rut you actually *produce* retardation. The deeper the rut of a river, the less it is likely to produce distributaries.

P.E. And you deepen the rut by the social reinforcements.

G.W. Oh, I think you do. So I'm never surprised that these things rarely do 'generalise'. When they do, in the real sense, we are too busy doing something else, and we don't notice all the other things he's doing. We fondly imagine we've taught the child something and really and truly it was out and out beautiful restraint on our part that did it. This is the important thing. We need to recognise that it's our concern *with other things* that often *allows* the child to learn things. With the retarded child *and* the gifted child, because we consciously become aware of the child's problem, we bring our conscious ideas to bear and these are completely inadequate. They are so distorted.

P.E. Distorted in relation to what?

G.W. The main thing is that if you're encouraging a whole child various parts of his development would need more encouragement than others, and it would be a very complicated thing to do. The child-parent system is built in such a way that all that's necessary is for a parent to notice only one or two little points amongst the hundreds which are going on, so the parents' business is to interfere in certain ways and to not interfere in other things. Somehow we have evolved to be influenced by certain baby behaviours and not to notice other ones. The thing which struck me a long time ago from working with pathologically damaged children was that if you look at the so-called milestones you see that they are not necessarily terribly important. I have referred to milestones as

'obvious unimportant moments in the child's early development'. We tend to look forward to our child's walking. Well, earlier than this, sitting up is a much less obvious thing and children often sit very late and are not noticed by their parents to be sitting late, and this is not by unintelligent parents. There is something about a child's getting up on his feet and walking which is of special moment and we are geared up to wanting this. We do tend to want our child to make his first words, but the interesting thing is that if children don't make sounds earlier on, we do not notice it. We notice it very much later. Obviously not only do children produce lots of noises - they babble, by 5 or 6 months a complicated babble - and produce sounds that could probably be called early 'words' at say 10 months or so, but if the child doesn't do all this, we don't notice. This is a fascinating thing. But by the time the child is getting past the end of the first year people who have been able to ignore the fact that the child has been virtually silent for 12 months begin to feel that it is about time the child was producing 'talk', so that there comes a time when we *do* feel the need to hear the child speak. But this is into the second year, even though children actually produce noises long before. When a child doesn't speak by about 15 months, people start to refer the child to a doctor. So enormous numbers of children are referred for not talking. Children are almost never referred for *not understanding* what people say to them.

Now you might have thought there'd be some sort of balance between a child's talking and his understanding of what people say to him, but in fact children are almost never referred for not understanding what is said. Often when they are referred for not talking the doctor is told that the

child is understanding what is said. This is very rarely the case. The majority of children who are not talking are not understanding, at least normally. What I'm getting at is the enormous 'up-and-down-ness' of what is important to the adult<sup>3</sup>.

P.E. So that's what you mean by 'distorted'?

G.W. Yes, exactly so. Ordinarily this is all right because 'nature has arranged', or we've evolved in such a way that the things that we do which are important to us we notice and we do something about them, and in the other ones we unconsciously *leave well alone*. This is also, to me, important to the child. When we come deliberately to give our attention, as for example in special education or when a child appears to be 'gifted', then we apply this peculiar distorted attitude in which *our* priorities - which were all right before when nature was dealing with the *real* priorities, but now nature's priorities have gone astray - are forced upon the child.

P.E. It's perhaps not so much that they're distorted but partial?

G.W. Well, yes, but I mean the whole system is distorted. For instance, I have a report on a child who is about 10 and is working at about a 2 or 2¼ years age level. So why on earth, on this report, do we have a section on pre-reading activities'. Well all right, pre-reading activities means before he's reading. So why not call them 'pre-

differential calculus' activities? It worries me that a psychologist can talk of pre-reading activities in a child who may never read and to whom reading is unimportant but in fact who needs to become a 2½ year-old first. It's rather like referring to walking as 'pre-decathlon activities'. Our thinking is so distorted because we know that with normally developing children reading is so terribly important in our particular culture that somehow or other our real priorities go askew. We don't notice that reading is only of high priority in children who have reached a certain stage of development.

P.E. You once said to me when I first came that one of the things that you felt was one way of getting priorities right was to imagine children from totally different cultures, to compare a child from Borneo with an English child and so on. It soon illuminates things like reading and feeding with spoons. It doesn't change the light on walking.

G.W. Well we can see that walking is something which is preparatory to having a child who is able to transfer his skills and the state of his understanding from one place to another to do so.

P.E. Yes, and it helps him to change his point of view and so on.

G.W. Yes and in most cases it has reasonable priority in the sense that if a child reaches a state of general understanding of around 15 months level then walking is of value to the child. It then becomes of some value to his

understanding. If a child has not reached something like a 9 or 10 months level then it has exactly the opposite effect. Walking does not have any immediate influence on the total understanding. It has a tremendous value as a means of transport, for getting a different point of view and for learning a number of different kinds of skills which can only be based on locomotion. In something like the Griffith test, which is partly a sort of inventory (I'm thinking of the first, the 2 years Griffith test), locomotion is given one-fifth of the value of the whole thing. So a child who isn't walking well but who is solving problems would be pulled down in his quotient, lowered by the fact that he isn't walking, and though this is a general developmental thing, clearly it's not related to cognitive functioning at the particular stage. At the same time, a child who is walking but is behaving in other ways in an extremely poorly adaptive way, may have his quotient pulled up. Like so many other tests which really only apply to the children that the test was standardised on, that is to say normal children, it gives a very wrong view when it comes to children who develop anomalously.

P.E. Why do you think it can be counter-productive to know how to walk?

G.W. Let's take a child of 6 months. At this stage a child would normally be sitting on the floor, not moving about. We know what happens. When he drops something, he tends to drop it outside his range of view. The point is that he's only got to drop his hands or fiddle around and he's likely to find something again, so he keeps finding things he's dropped and picking them up. The things he drops stay close to him on the whole. He's capable of wriggling round and because anything he drops stays at floor

level, it stays close to him. But if you take that child and make him into a bigger locomotor child, walking becomes a self-delighting activity. The child walks and walks for the sake of walking. Because of this, there is less and less to compete with the delights of walking. Of course, the child who is normally walking has such an advanced state of understanding that the delights of walking are always in competition with the things he has previously learned much better from sitting down. So whenever he tires of walking, he becomes interested in what is about him. Not only that, when a walking normal child picks something up he can handle it and do things with it, and if he happens to drop it he can look for it and pick it up again.

The walking child who is at a 6 months level is behaving quite differently, so when he drops something, even if he should reach down, he reaches only down to his knees. But the objects are on the floor. Not only that, not only are they too low down (a 6 months old child does not look low down), but as a result of the locomotion, they are getting left behind. The majority of young children who are referred as 'hyperactive' are really in this category. They are so backward that their stage of understanding is out of true with their locomotor ability. The simple way of dealing with it in principle is, for some of the time, *to prevent the child from walking!* The best thing would be to dig a hole in the floor and slide the child down into it so he is up to his tummy... well obviously you don't really do that, but you can sit him at a table, which comes to the same thing. You can actually increase the child's capacity at the table, and quite often this can be done reasonably quickly. People tend often to say 'We've got to reinforce his sitting at the table' so they use some special reinforcement mechanism. Well, I am more

interested in what the child does with his hands and eyes while he's sitting at the table. As that's going to be pleasurable anyway, (or if it isn't I'm wasting my time), then I can use the pleasures of that not only to increase his understanding, with the reaching etc., but also to reinforce his tendency to enjoy sitting to the table. Instead of giving a child a spoonful of jam because he sits at the table, we make him work. And the more he works, the more pleasure he gets out of sitting at the table.

P.E. But there's always this hump to get over, isn't there, *before* it becomes pleasurable?

G.W. Yes, but this is much less of a problem to the child than to the teacher. We all tend to feel, quite humanly but quite irrationally, that we should not make children do the things they don't want to do. Every activity the child does is going to be pleasurable but it may be overlaid by unpleasures of the kind we mentioned earlier on. So when we cause a child who normally never sits, to sit down this may itself be unpleasurable for him. More likely, he will sit down all right but soon will get up again. That's where the first rub comes. He tries to get up, we interfere and immediately we've created an anxiety or an insecurity because what the child normally does, what he expects to do, does not come about. For a moment we have actually created a handicap situation. But if previously, while the child is still standing or walking we have given him some sort of activity with his hands which is pleasurable, then we can sit him down and immediately engage him in this activity. For a short period of time at least the child engages in this activity, with our help, and suffers the sitting down. Well, the longer he suffers it,

the easier for him it becomes to accept the situation. After a while we no longer have to bother about keeping him sitting there. We simply have to make sure that he's busy enough to remain sitting. The longer he remains sitting in association with busy pleasure the more he will want to sit down (and the sooner he will come running to the table in order to sit down).

P.E. But I have seen times when it has been extraordinarily difficult . . .

G.W. You've got to decide at a certain stage that it is sometimes necessary to create a state of handicap and long enough for the child to discover that *he does not need to produce handicap behaviours under those particular circumstances*. This is one of the hardest things. This is when you've really got to believe in what you're doing. I find that the majority of children have no difficulty in coping with this. Very quickly you overcome it. But the more tentative you are, the more nervous you are about whether you are doing the child some great harm or something, the worse it is, the more vulnerable the teacher is and the more difficult it is for the child. The real problem is that a lot of us feel that making someone do something is bound to cause him to dislike the activity in the future. 'I was made to do Modern History and I've hated it ever since' sort of thing. My argument would be that that was because we were made to do it ineffectually. If you can actually 'force' a child to do something *effectively* then he will enjoy it<sup>4</sup>. If the child is caused to do enough of a thing to increase his understanding of it, then I would see a child's interest in something as a function of his understanding of it. If you can increase the

child's understanding, then he's bound to be interested.

P.E. What about when it comes to banging? I would have thought a child's enjoyment of banging was more due to a new feeling of being effective on his environment than to an increase in understanding.

G.W. Here though I would think that it is in many ways the same thing. If one assumes that the problem with the banging initially is more the fear of the movements involved, the rapid change of movements which involve the whole body and which are, in some children very different from the movements they normally make, then by forcing these on the child to begin with one produces a considerable welling up of anxiety. Despite this, I would say that the pleasure is always there anyway. As the anxiety lessens because the activity happens and the terrible things that one anticipates presumably don't come about, gradually the anxiety tends to drain away. Through this then comes the actual original pleasures of the activities themselves. We now get the child coming to accept activities which may not be very different from the ones he was always familiar with but just far enough away to be worrying. As we do, we can get more and more variations on those activities so that we increase the child's understanding of his own body, etc. One of the big problems is the switching from hand to hand. You can show it isn't the noise by taking that away, but banging with alternate hands or raising the arms more than so much, this is often a problem. Sometimes not increasing the amplitudes but changing the level (with relation to the child's head) creates anxiety. Mostly though the child does not mind banging with one hand *or* the other but might find it very upsetting to

bang, with a stick in each hand thus: right, left, right, left. The same difficulty is sometimes shown up when passing an object from one hand to the other.

## NOTES

1. The relatively inevitable evolution of manual grasp, from palming to index finger-thumb opposition, is sometimes interfered with by muscle or movement impairment or, as in Down's Syndrome, by dysplasia.

2. It is commonly believed that a child's being trained to perform a simple skill will subsequently lead to his producing variations on this theme and to 'generalisation'. I do not think that this does happen. In fact, the child engages in a great variety of activities which gradually crystallise into a number of skills, each of which is a representative of the bundle of allied actions from which it condensed. Formed in this way - from generality to *particular* - the appearance of variants is simply the re-discovery of components which went into the making of the definitive activity.

3. In education we must distinguish between a parent's (i.e., a grown-up's) needs for his child and the child's own needs for himself.

4. 'Pleasure' and 'unpleasure' *always* coexist but in differing degrees and in differing proportions.

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